

**STRATEGIES FOR  
SURVIVAL, AKA  
EVOLUTION OF  
BUTTERFLIES  
AND MOTHS  
IN ACTION.**

**WE ARE  
FAMILIAR WITH  
THE MONARCH  
AS MODEL AND  
VICEROY AS  
MIMIC.**



**Monarch  
from  
eastern  
US.**

**Viceroy  
from  
Ohio.**



In some parts of the SW US, including New Mexico, we have Queen butterflies and dark colored Viceroy. In New Mexico we have both Queens and Monarchs and light and dark Viceroy.





**Viceroy from  
Las Cruces,  
New Mexico.**

**Queen from  
southern  
New  
Mexico.**

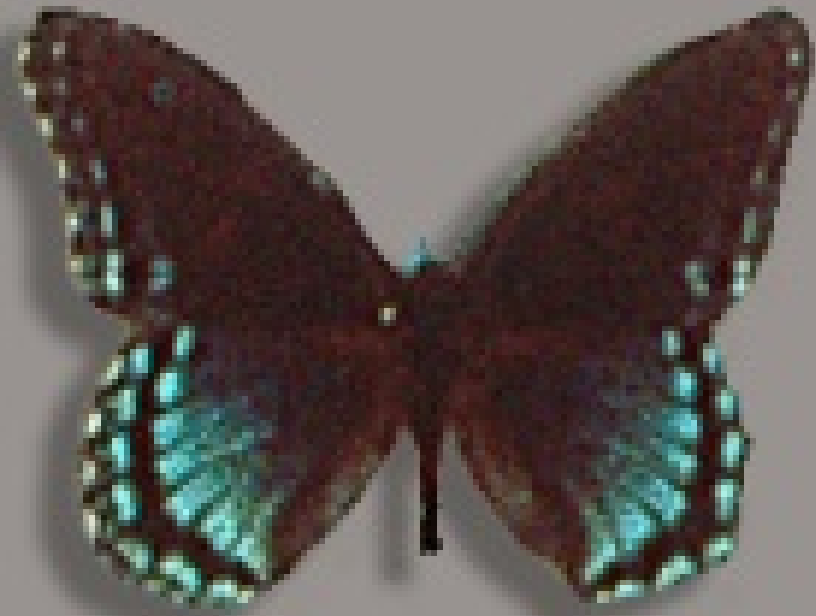


A less well known  
Model and Mimic  
from eastern US  
involves the Pipevine  
Swallowtail and the  
Red Spotted Purple  
butterfly.



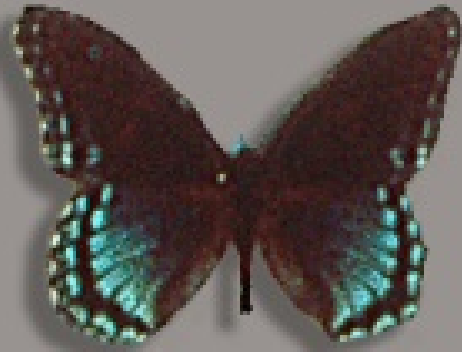
**Pipevine  
Swallowtail  
from Ohio.**

**Red  
Spotted  
Purple from  
Ohio.**



**The Pipevine  
Swallowtail is the  
Model in a  
Complex of Mimic  
Butterflies and  
one Moth.**





**Now we switch  
gears and talk  
about two moth  
species, both in  
the family  
Saturniidae.**



**Buck moth  
from Ohio and  
New Mexico.**

**Io moth  
from Ohio  
and New  
Mexico.**



Caterpillars from both species are gregarious (they feed in groups), and the larvae of both species have stinging hairs.





Adults from both species evade predators differently. Buck Moth adults use false aggression.



10 moths  
use crypsis,  
and if cryp-  
sis fails, it  
startles the  
would be  
predator  
with owl  
eyes.



***Legion of Night: The  
Underwing Moths,*  
by Theodore D.  
Sargent, 1976.\***

\*University of  
Massachusetts Press

The underwing moths,  
genus *Catocala* (Erebidae)  
have cryptically marked  
forewings, and incongruent  
hind wings. The genus is  
long favored by collectors,  
who gave them fanciful  
names like Darling  
underwing, Betrothed  
underwing, etc.





**Darling  
underwing,  
*Catocala  
cara*.**



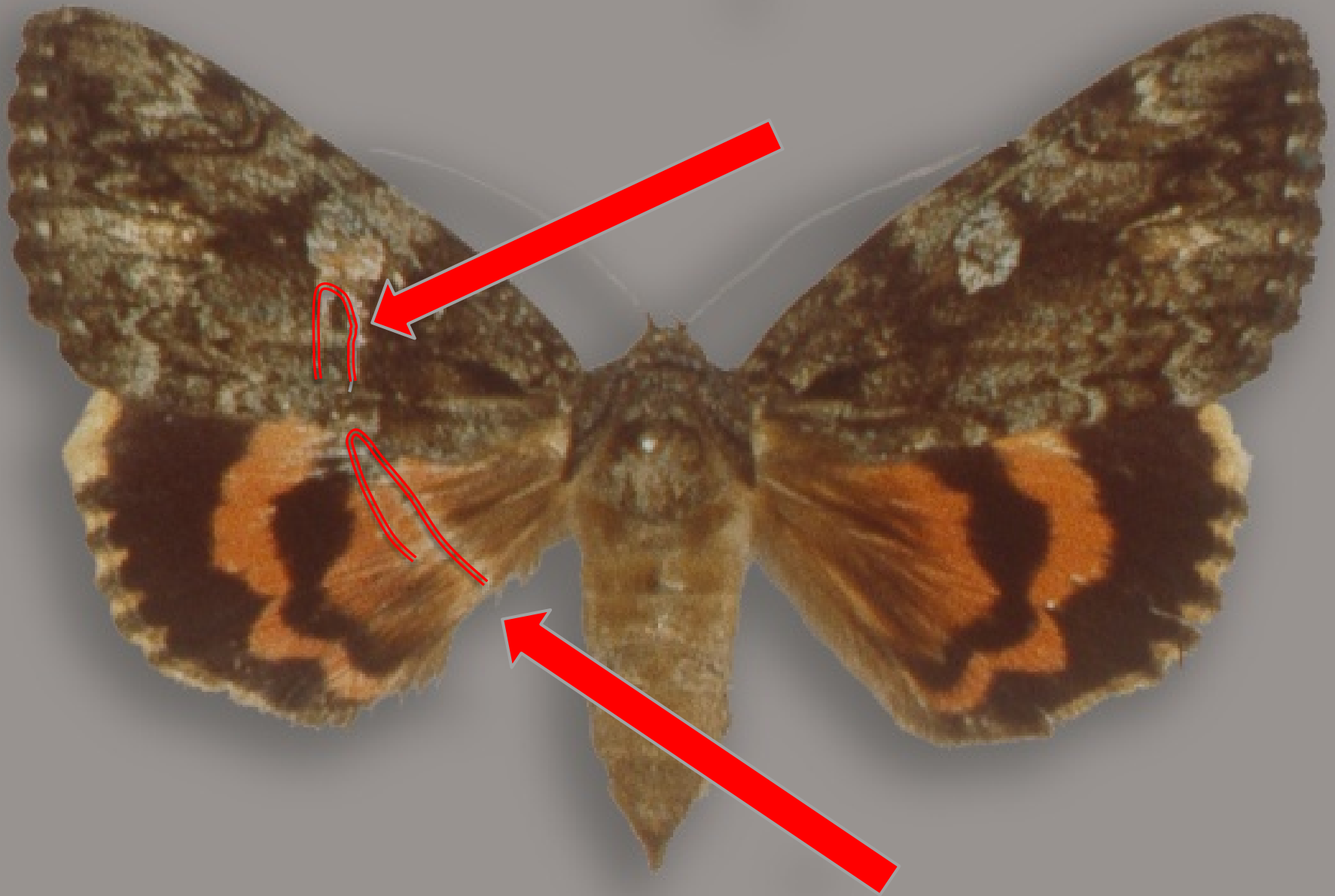




















**Identical forewings,  
different hind wings !**



**Identical forewings,  
different hind wings !**



**These are just 4 species  
pairs. If you were a bird  
could you figure  
this out ?**





**Questions ?**

**Comments ?**

**Suggestions ?**

**Do not forget the  
tip jar in the back  
on your way out.**